



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,466	03/02/2000	James L. Hartley	0942.4680003/RWE/BJD	4289

26111 7590 10/20/2004

STERNE, KESSLER, GOLDSTEIN & FOX PLLC
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

JOHANNSEN, DIANA B

ART UNIT	PAPER NUMBER
----------	--------------

1634

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/517,466

Applicant(s)

HARTLEY ET AL.

Examiner

Diana B. Johannsen

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 3-9, 12-14, 17, 22-25, 30, 31 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 10, 11, 15, 16, 18-21, 26-29, 32-34 and 36-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

FINAL ACTION

1. This action is in response to the reply of July 19, 2004. Claims 3-9, 12-14, 17, 22-25, 30-31 and 35 remain withdrawn. Claims 1-2, 10-11, 15-16, 18-21, 26-29, 32-34 and 36-38 are presently under consideration. Applicants' arguments have been thoroughly reviewed, but are not persuasive for the reasons that follow. **This action is FINAL.**

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restriction

3. It is again noted that claims 3-9, 12-14, 17, 22-25, 30-31 and 35, as well molecules not including attB1 sequences, and (regarding claims 10-14) functional or structural sequences other than transcriptional regulatory sequences, are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected election, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement with regard to the election of one species of functional or structural sequence encompassed by claims 10-14 in the Reply of June 27, 2002.

Additionally, it is again noted that vectors other than pMAB58, pMAB62, pMAB85, and pMAB86 are withdrawn from consideration (see discussion in the prior Office action of February 17, 2004).

Applicant is again reminded that upon allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which

Art Unit: 1634

are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141.

Claim Rejections - 35 USC § 112

4. Claims 33-34 and 38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for reasons set forth in the Office action of February 17, 2004.

The response traverses the rejection on the grounds that "with regard to the vectors that do not have their corresponding sequences set forth in the present specification, the ordinarily skilled artisan would have found sufficient guidance in the drawings and descriptions provided in the present specification for these vectors that would allow them to be prepared without undue experimentation." The response cites one particular example, noting that "the ordinarily skilled artisan would have readily recognized that the vector pMAB86 (Figure 99A) is substantially similar to vector pMAB58 (Figure 87) based on the vector maps provided," and that "Taking the map for the pMAB58 vector, and using the sequence (Figures 99B-99D) and vector map provided for pMAB86, the ordinarily skilled artisan would be able to prepare vector pMAB58." The response concludes that "Only routine modifications to the vector sequence of pMAB86 are required to generate the pMAB58 vector, and these modifications are clearly illustrated in the pMAB58 vector map."

It is noted that the instant rejection has been overcome with respect to elected vectors pMAB85 and pMAB86, as the sequences of these vectors are in fact provided in Figures 98-99, respectively. However, Applicants' arguments are not persuasive with regard to vectors pMAB58 and pMAB62. While these vectors may in fact be "substantially similar" to other vectors described in the specification, as asserted by Applicants, the specification does not provide sufficient guidance with regard to how these particular vectors are prepared to allow one of skill to prepare them without undue experimentation. For example, the map provided in Figure 99 and the sequences provided in the specification would allow one of skill to prepare a variety of vectors that might correspond to the pMAB58 vector of Figure 87; however, absent specific guidance with regard to the use of pMAB86 in preparing pMAB58 and, e.g., the particular manner in which insertions/deletions, etc. were conducted, one of skill in the art could not be confident that any particular vector actually corresponded to the vector identified by Applicant as pMAB58. Accordingly, this rejection is maintained.

5. Claims 1, 2, 10-11, 15-16, 18-21, 26-29, 32, and 36-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for the reasons set forth in the Office action of February 17, 2004.

Claims 1, 2, 10-11, 15-16, 18-21, and 36-38 are indefinite over the recitation of the language "an ____ nucleotide sequence as set forth in Figure 9" because this language does not clearly limit the claims to a particular sequence. The response traverses the rejection on the grounds that an ordinary artisan

Art Unit: 1634

would “readily recognize” that this phrase “clearly refers to the specific nucleotide sequences set forth in Figure 9.” However, while it is acknowledged that one of skill would recognize that this phrase does refer to a sequence or sequences depicted in Figure 9, it is unclear whether the recitation “an attB1 nucleotide sequence as set forth in Figure 9” refers only to the full length sequence designated attB1 in the Figure, or whether, e.g., subsequences of this sequence would also be considered to constitute “an attB1 nucleotide sequence.”

Accordingly, as it is not clear which sequences of Figure 9 are embraced by the claim, this rejection is maintained.

Claims 1, 10-11, 15-16, 18-21, and 36-38 are indefinite over the recitation of the phrase “a polynucleotide complementary thereto, and a mutant, fragment or derivative thereof” in claim 1. The response traverses the rejection on the grounds that an ordinary artisan “would readily recognize” that this phrase refers “to any of the nucleotide sequences recited in claim 1.” This argument is not persuasive, as it is not clear from the claim as written whether the language “polynucleotide complementary thereto” is intended to require a sequence that is a complement of each of the previously recited sequences, of any of these sequences, or of only the sequence recited immediately prior to the recitation (i.e., “an attR2 nucleotide sequence as set forth in Figure 9”). Similarly, it is unclear whether the language “a mutant, fragment or derivative thereof” refers to mutants/fragments/derivatives of each of the previously recited sequences, of any of these sequences, or of only the sequence recited immediately prior to the

Art Unit: 1634

recitation. Accordingly, it is unclear as to what isolated nucleic acid molecules are encompassed by the claims, and therefore this rejection is maintained.

Claim 11 is indefinite because it is unclear as to how or whether the claim is intended to further limit the claims to the extent that the claims are drawn to sequence or sequences of claim 10 other than a transcriptional regulatory sequence. The response traverses the rejection on the grounds that an ordinarily skilled artisan "would readily understand that claim 11 further limits the transcriptional regulatory sequences recited in claim 10 to promoters, enhancers, or repressors." However, claim 10 does not in fact recite a particular "transcriptional regulatory sequence" that might constitute "said transcriptional regulatory sequence," and further, claim 11 as written is not limited to such a sequence or sequences. It is again noted that this rejection could be overcome by amending the claim such that it actually requires one or more "functional or structural nucleotide sequences" of the type recited in the claims. For example, claim 11 could be amended to recite "wherein said one or more functional or structural nucleotide sequences include one or more transcriptional regulatory sequences, and wherein said one or more transcriptional regulatory sequences is/are selected from one or more promoters, one or more enhancers, and one or more repressors." This rejection is maintained.

Claim 11 is indefinite over the recitation of the limitation "said transcriptional regulatory sequence" because there is insufficient antecedent basis for this limitation in the claims. While the response asserts that "there is sufficient antecedent basis" for this limitation, it is again noted that while claim 10

Art Unit: 1634

refers to "one or more transcriptional regulatory sequences," the claim does not recite a particular "transcriptional regulatory sequence." Therefore, this rejection is maintained.

Claims 15-16, 18 and 37 are indefinite over the recitation of the phrase "comprising the isolated nucleic acid molecule of claim 1 or a portion thereof linked to a target-specific nucleotide sequence useful in amplifying said target nucleotide sequence" in claim 15. The response traverses the rejection on the grounds that an ordinarily skilled artisan would "readily recognize" that this phrase "limits *both* the isolated nucleic acid molecule of claim 1 *and* a portion thereof." However, this limiting interpretation of the claim is not in fact made clear by the language employed by Applicants, as it is unclear from the claim as now written whether this recitation refers back to and limits the "primer nucleic acid molecule" or the "target nucleotide sequence," and further whether the recitation "linked to a target-specific nucleotide sequence useful in amplifying said target nucleotide sequence" limits only the previously reciting "portion thereof" or whether this limitation applies to any primer encompassed by the claims. Accordingly, this rejection is maintained.

Claim 16 is indefinite over the recitation of the phrase "the sequence shown in Figure 9." The response traverses the rejection on the grounds that this phrase "refers to the attB1 nucleotide sequence shown in Figure 9." However, this argument is not persuasive: as multiple sequences appear in Figure 9, it is unclear as to which of these sequences would constitute "the sequence" of the claim, and one of skill in the art would have no reason to

Art Unit: 1634

conclude or assume that this language referred specifically to “the attB1 nucleotide sequence,” as Applicants assert. Accordingly, this rejection is maintained.

Claims 26-28 and 36 are indefinite over the recitation of the limitation “its core region” in claim 26 because it is unclear as to whether “it” refers to the “isolated nucleic acid molecule,” to “one or more *att* recombination sites,” or to a particular single *att* recombination site. The response traverses the rejection on the grounds that an ordinarily skilled artisan “would readily recognize that the phrase ‘its core region’ refers to the one or more *att* recombination sites.” This argument is not persuasive, as claim 26 as written does not in fact specify what “it” is or make clear what the phrase “its core region” refers back to. Accordingly, this rejection is maintained.

Claims 26-28 and 36 are indefinite over the recitation of the limitation “said recombination site” in claim 26 because there is insufficient antecedent basis for this limitation in the claims. The response traverses the rejection on the grounds that an ordinary skilled artisan “would readily recognize” that this phrase refers back to “the one or more *att* recombination sites” of the claims. However, it is again noted that while claim 26 does previously refer to “one or more” recombination sites, the claim never refers to a particular recombination site; thus, it is unclear as to whether this recitation does in fact limit the previously recited “one or more” sites, or only one particular “recombination site.” This rejection is maintained.

Art Unit: 1634

Claim 27 is indefinite over the recitation of the limitations “said mutation” and “the seven basepair overlap region of said core region of said recombination site” because there is insufficient antecedent basis for these limitations in the claims. Additionally, claim 28 is indefinite over the recitation of the limitation “the consensus sequence” because there is insufficient antecedent basis for this limitation in the claims. The response traverses these rejections of the claims on the grounds that there is sufficient antecedent basis for these phrases. However, as these phrases are not in fact previously employed in the claims, this argument is not persuasive. Accordingly, these rejections are maintained.

Claims 29 and 32 are indefinite over the recitation of the limitation “its core region” in claim 29 because it is unclear as to whether “it” refers to the “isolated nucleic acid molecule,” to “one or more mutated *att* recombination sites,” or to a particular single mutated *att* recombination site. The response traverses the rejection on the grounds that an ordinarily skilled artisan “would readily recognize that the phrase ‘its core region’ refers to the one or more *att* recombination sites.” This argument is not persuasive, as claim 29 as written does not in fact specify what “it” is or make clear what the phrase “its core region” refers back to. Accordingly, this rejection is maintained.

Claims 29 and 32 are indefinite over the recitation of the limitation “said mutated *att* recombination site” because there is insufficient antecedent basis for this limitation in the claims. The response traverses the rejection on the grounds that there is sufficient antecedent basis for this limitation in the claims. However, as the claim does not in fact previously refer to a particular “mutated *att*

Art Unit: 1634

recombination site," this argument is not persuasive. This rejection is maintained.

Claim Rejections - 35 USC § 102

6. Claims 1-2, 10-11, 15-16, 18-21, 26-29, and 36-38 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Life Technologies, Inc. (WO 96/40724 [12/1996]; hereinafter referred to as "LT"), for the reasons set forth in the Office action of February 17, 2004, which reasons are repeated below.

LT teaches a variety of recombination site core regions, including a sequence identified as SEQ ID NO: 6, as well as a "corresponding or complementary DNA or RNA sequence" (see entire reference, particularly pages 29-30). As LT's SEQ ID NO: 6 is the exact complement of the sequence disclosed by Applicant in Figure 9 as "attB1," LT discloses an isolated nucleic acid molecule comprising a "an attB1 nucleotide sequence as set forth in Figure 9," as well as the complement thereof. Regarding claims 19-21, LT discloses vectors comprising one, two, or more of their recombination sites; the vectors taught by LT include expression vectors, and LT further teaches host cells comprising their vectors (see, e.g., pages 8, 10-11, 17-18). With respect to claims 10-11, LT teaches inclusion of transcriptional regulatory sequences, including promoters, in their molecules/vectors (see, e.g., page 13). Regarding claims 15-16 and 18, it is an inherent property of LT's SEQ ID NO: 6 and the complement thereof that these molecules could be used as primers in, e.g., PCR. Accordingly, LT teaches nucleic acid molecules meeting the requirements of the claims. Regarding claims 26-29, LT discloses the introduction of mutations into

Art Unit: 1634

recombination sites to enhance recombination, and teaches mutations and molecules comprising said mutations meeting the requirements of the claims (see pages 27-30). Regarding claims 36-38, LT discloses kits comprising vectors including their recombination site sequences (see, e.g., pages 7-8 and claims 7-9).

The response traverses the rejection on the grounds that "Applicants respectively disagree with the Examiner's contentions and conclusions." This argument has been thoroughly considered but is not persuasive. Applicants have not indicated why they disagree with the rejection, or provided any specific arguments or basis for such disagreement. LT teaches all the limitations recited in present claims 1-2, 10-11, 15-16, 18-21, 26-29, and 36-38, as set forth in the prior Office action (and repeated above). Accordingly, this rejection is maintained.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

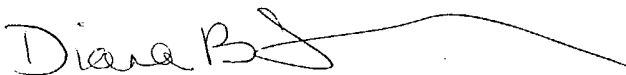
Art Unit: 1634

the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diana B. Johannsen whose telephone number is 571/272-0744. The examiner can normally be reached on Monday-Friday, 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones can be reached at 571/272-0745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Diana B. Johannsen", followed by a long horizontal flourish line.

Diana B. Johannsen
Primary Examiner
October 18, 2004